

VETERINARY CALL



by Bob Larson, Kansas State University

Evaluating the pregnancy diagnosis

Simply determining the percentage of the herd that became pregnant during the breeding season does not fully utilize all the information that can be generated during a typical preg-check.

The Beef Cattle Institute (BCI) at Kansas State University has created a Pregnancy Analytics App that will allow easy chuteside data collection at the time of pregnancy diagnosis. It will immediately turn preg-check data into easy-to-read charts and tables that provide enhanced information for veterinarians, providing in-depth interpretation of the recently completed breeding season.

An important limitation to the number of cows that can become pregnant each 21-day cycle is that there is only a 60%-70% likelihood of a cow becoming pregnant and maintaining the pregnancy each time she ovulates a fertile egg and is mated by one or more fertile bulls.

Establishing expectations

In most instances, when a cow ovulates a fertile egg and is mated but either fails to conceive or fails to maintain the pregnancy, she will continue fertile estrous cycles and express a fertile heat again about 21 days after the last estrus, giving her another 60%-70% likelihood of becoming pregnant.

Because of the limitations associated with cattle reproduction,

the best pregnancy pattern that can be reasonably expected is one where 60%-65% of the herd becomes pregnant during the first 21 days of breeding. This level of reproductive success would provide evidence that at the start of the breeding season, nearly all the cows had resumed fertile cycles, and the bulls were fertile and successfully mating.

Therefore, after three cycles (or 60 to 65 days), the highest reproductive success that can be reasonably expected is for approximately 95% of the cows to be pregnant.

If the nonpregnant cows continued to have fertile cycles and the bulls continued to successfully mate cows in heat, then 65% of the cows that failed to establish or maintain a pregnancy from the first cycle should become pregnant during the second 21 days of breeding. This would be about 23% of the herd.

As the breeding season moves into the third 21 days, if the nonpregnant cows continued to have fertile

cycles and the bulls continued to successfully mate cows in heat, then 65% of the cows that failed to establish or maintain a pregnancy from the first two cycles should become pregnant during the third 21 days of breeding. This would be about 7% of the herd.

Therefore, after three cycles (or 60 to 65 days), the highest reproductive success that can be reasonably expected is for approximately 95% of the cows to be pregnant, with nearly two-thirds becoming pregnant in the first 21 days.

Visualizing problems

Veterinarians know that being able to visualize the percentage of a cow herd that became pregnant each 21 days of the breeding season can provide important information to identify the contributing causes for a lower-than-desired breed-up by identifying periods of time within the breeding season when breeding success was decreased.

In addition, by evaluating the breeding season success for cows grouped by age, body condition or other description, the veterinarian can identify not only “when” breeding was less successful, but

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“which types of cows” were less successful.

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Another important calculation is the percent of cows available for breeding that became pregnant each 21 days. As the breeding season progresses, the number of cows within the herd that are open and have the opportunity to become

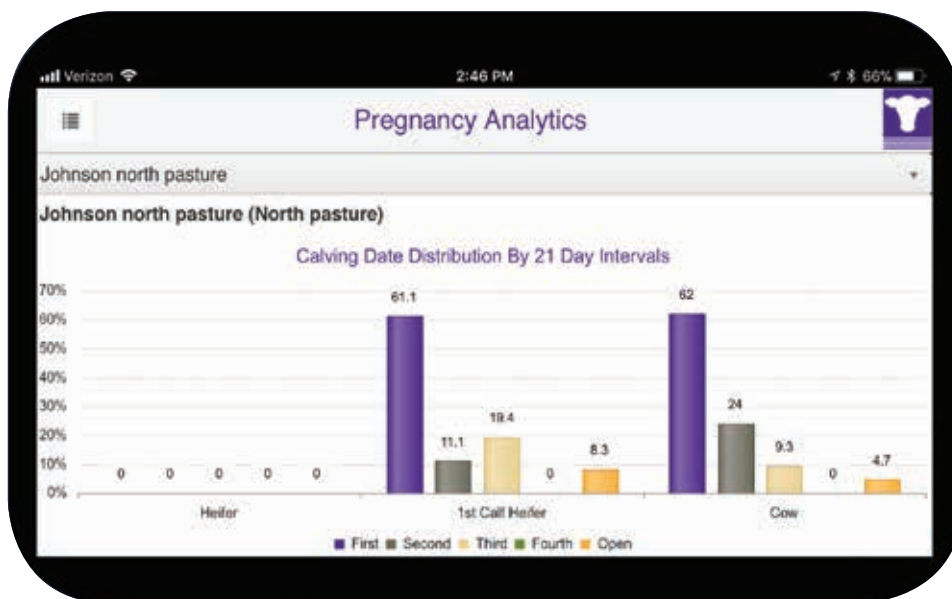
pregnant should steadily decrease as more cows become pregnant. The app provides several tables that display the percentage of cows that are open at the start of each 21-day period that became pregnant during that period.

Combined with information about the timing of births in the calving season preceding the breeding season, bull breeding soundness examinations, environmental and forage conditions, and management during the breeding season, the graphs and tables generated by the Pregnancy Analytics App are a powerful diagnostic tool to assist veterinarians and producers improve the reproductive efficiency of beef herds.

Learn more at <https://www.beefcattleinstitute.org/online-tools/bci-mobile-apps/bci-pregnancy-analytics/>. 



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